107-57-5-26/63

Long-Distance VHF Propagation

Kazantsev noted that the USSR is lagging in the matter of scatter propagation. V.A. Bubnov reported the results of the recording of levels of the Khar'kov tv station at various distances and also the experiments of twin reception of 67.6/71.1 and 77.25/83.75 mc between Khar'kov and Izyum. A.I. Khachaturov reported preliminary results of a trans-horizon scatter reception Moscow-Odessa and Leningrad-Odessa observed in May to September 1955. A type IP-14 noise meter and a four-element Yagi antenna with a loop radiator were used. S.K. Sotnikov, a radio amateur, reported   his experiments of tv dxing during the summer of 1956. His results are described in Radio, 1956, Nr 12 and in 107-57-5-28/63. M.V. Boyenkov in his report "About a Long-Distance Ionospheric Propagation of VHF" examined the peculiarities of propagation of 6 to 10-m waves over distances of a few thousand kilometers. Monthly predictions of vhf communication conditions for various routes from 1,600 to 14,500 km are published in the USSR. D.M. Vysokovskiy dealt with theoretical and mathematical problems in his report "Some Problems of the Theory of VHF Diffuse Propagation in the Troposphere". Also these theoretical reports were delivered: "Diffusion of Radio Waves in the Ionosphere and Long-Distance Propagation of VHF" by Ya. L. Al'pert; "Turbulent Intermixing and Diffusion of Radio Waves in the Ionosphere" by B. N. Gershman; "An Altitude-Wise Study of the Multiple Structure of Ionospheric Stratum With a

Card 2/3

Long-Distance VHF Propagation   107-57-5-26/63

Frequency-Separated Reception" by S. F. Mirkotan; "On the Methods of Calcula-
tion of Radio-Wave Diffusion on Random Inhomogeneities" by V.A. Zverev.
The Conference found necessary to organize broad theoretical and experimental
investigations of vhf scatter propagation in 1957-1960. Steps toward this end
are listed in the article.
There are two Soviet references.
AVAILABLE: Library of Congress

Card 3/3

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 3, 1965, 429-434

TOPIC TAGS: ionosphere, electron concentration, atmosphere model, electron distribution

ABSTRACT: An ionospheric model was constructed to determine electron distribution

and the electron concentration distribution is expressed by

$$N = N_m \exp \frac{1}{2} \left[1 - \frac{h}{H_m + H'h} - \exp\left(- \frac{h}{H_m + H'h} \right) \right]$$

A

which, when integrated over h, becomes

$$y = h / H_\infty \quad a = H'$$

urves of H and n are depicted

L <4n. . 25   EP '{ 3 /FS5-2/EWT(1)/EWT(m /ERP(w. /EEC (k)-2/FCC/ERP(v : 1 .) E x) -

ACC NR: AP6012827   SOURCE CODE: UR/0293/66/004/002/0221/0237
                EWA(h)/ETC(m)-6   IJP(c)
                                     AST/EM/GW   70

AUTHOR: Kazantsev, A. N.; Lukin, D. S.   B

ORG: none

TITLE: Mechanism of the radio-wave propagation from artificial earth satellites

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 2, 1966, 221-237

TOPIC TAGS: radio wave propagation, magnetic field, ionosphere, artificial satellite

ABSTRACT: The mechanism of radio-wave propagation from artificial earth satellites
has been investigated (without taking into consideration the magnetic field and col-
lisions), based on the calculation of the radio-wave trajectory in a heterogeneous
ionosphere, a hose electron concentration arbitrarily changes according to two co-
ordinates. Calculations are made of ray trajectories in a spherical layered iono-
sphere in the absence and in the presence of a horizontal gradient. It was shown
that in the case of a spherical layered ionosphere, there are two mechanisms of
radio-wave propagation, namely, consecutive reflections from the ionosphere and from
the earth's surface and consecutive reflections from the ionosphere only. The
presence of the horizontal gradient of the electron concentration substantially affects
the wave propagation (ionosphere -- ionosphere) and leads to the arrival of radiation
on the earth from artificial earth satellites at distances of 4,000 to 6,000 km.

Card 1/2   UDC: 621.371

L 24035-66

ACC NR: AP6012827

The time of the signal propagation is compared with the experimental data according to the round-the-world echo. Orig. art. has: 14 figures and 28 formulas.   [NT]

SUB CODE: 03/   SUBM DATE: 23Jul65/   ORIG REF: 005/   OTH REF: 001/

Card 2/2 dda

L 22871-66   EWT(d)/FSS-2/EWT(1)/EEC(k)-2/FCC/EWA(d)/EWA(h)   AST/TT/RB/GW/WS-2

ACC NR: AP6012828   SOURCE CODE: UR/0293/66/004/002/0238/0241

AUTHOR: Kazantsev, A. N.; Lukin, D. S.

ORG: none

TITLE: Field intensity of short radio waves emitted by an artificial earth satellite

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 2, 1966, 238-241

TOPIC TAGS: radio communication, satellite communication, radio wave propagation

ABSTRACT: A study is made of the dependence of the field intensity of short radio waves emitted by an artificial earth satellite on distance under various propagation conditions and parameters of the ionosphere. Formulas are derived for calculating the focusing factor for the emission (without consideration of the magnetic field) and for the total absorption coefficient factor for the radio beam path. The Strela-M   computer was used   for   the calculations.   Some results are shown in the figure.   The curves show the upper and lower

Card 1/2   UDC: 621.371
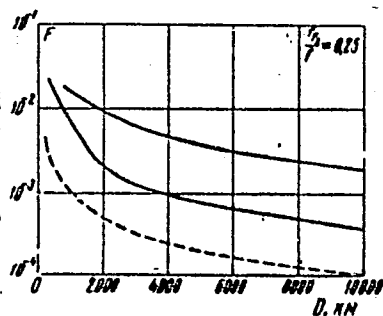
L 22871-66

ACC NR: AP6012828

Fig. 1.   Dependence of field intensity on distance

―――― Focusing factor taken into account
– – – According to 1/D.

limits of the field intensity for various angles of the beam output. For the case of reflection from the ionosphere only, the field intensity decreases slower than 1/D. Orig. art. has: 3 figures and 12 formulas.   [GS]

SUB CODE: 17/   SUBM DATE: 23Jul65/   ORIG REF: 004/   ATD PRESS: 4234

Card 2/2

KAZANTSEV, A.

Dynamics of the accumulation of antitoxin in the blood of dogs
with different typological characteristics following the injection
of a single dose of dysentery exotoxin. Zhur.mikrobiol.epid. i
immun. 28 no.7:150 Jl '57.   (MIRA 10:10)

1. Iz Voyenno-meditsinskoy akademii imeni Kirova.
        (DYSENTERY)   (TOXINS AND ANTITOXINS)

17(2)

AUTHORS: Alisov, P.A., Colonel in the Medical Service, Professor,
             Yegorova, A.P., Candidate of Medical Sciences, and Kazantsev, A.P.,
             Candidate of Medical Sciences

TITLE: The Influence of Protozoic and Worm Invasions on the Clinical
             Course and Immunogenesis of Acute Dysintery Patients

ABSTRACT: The purpose of this article is to elucidate peculiarities of the
             clinical course of acute dysentery in conjunction with protozoic
             and worm invasions and the influence of accompanying diseases on
             the immunogenesis of dysentery patients. The authors had 279 acute
             dysentery patients under observation, all men 19 -23 years old
             with similar working, living and eating conditions. The clinical
             observation process over a period of 12 - 18 months, both during
             and after treatment, is described. Of the 279, 155 had accompany-
             ing diseases, indicated by type in table 1. The authors note 3
             main effects of invasions and accompanying diseases on dysentery
             patients: 1) prolongation of the recovery period, 2) more fre-
Card 1/2   quent stool, 3) more serious anatomical changes in the intestine.

SOV/177-58-2-13/21

The Influence of Protozoic and Worm Invasions on the Clinical Course and
Immunogenesis of Acute Dysintery Patients

Card 2/2

The dynamics of the titre of the complement and the agglutination
reaction for acute dysentery patients are shown (table 2). A harsh
influence of acompanying diseases is the fagocyte activity of the
blood and depression of the immunogenesis, briefly discussed by
the authors. Fagocyte activity is described in figure 1. As shown
in figure 2, dysentery patients without accompanying diseases re-
covered completely, while of those with invasions and accompany-
ing diseases 8 - 17% went from acute to chronic dysentery. Most
serious was a combination of dysentery and ascaridosis or other
diseases, largely inflammation of the bile passages. The authors
conclude that special attention should be given the treatment of
accompanying diseases, especially protozoic and worm invasions, in
acute dysentery patients. There are 2 table and 2 diagrams.

17(9)

SOV/177-58-4-13/32

AUTHOR: Kazantsev, A.P., Candidate of Medical Sciences

TITLE: An Evaluation of Providing the Organism with Vitamin C by Determining the Resistibility of Vessels (Otsenka C-vitaminnoy obespechennosti organizma putem opredeleniya rezistentnosti sosudov)

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1958, Nr 4, pp 41-43 (USSR)

ABSTRACT: The author reports on his examinations of 286 persons to detect how far changes in the resistibility of vessels reflect the lack of vitamin C. The resistibility was investigated by A.I. Nesterov's method, with the aid of a device modified by the author. Nesterov distinguishes 3 degrees of changes: 1) uniform hyperaemia, 20-30 fine hemorrhages; 2) a hyperaemic field, densely dotted with fine and middle hemorrhages, sometimes single large hemorrhages; 3) continuous haemorrhages flowing together. The device is composed of a pump, connected

Card 1/2

SOV/177-58-4-13/32

· An Evaluation of Providing the Organism with Vitamin C by Determining the Resistibility of Vessels

by a rubber tube with a funnel and a manometer. After the funnel has been installed, and the air has been rarified by the pump, the crane is closed and the rarified air is kept at a level of 300 mm for 3 minutes. By means of the above described device the resistibility of vessels can be examined in more than 10 persons per hour. There are 2 diagrams.

Card 2/2

KAZANTSEV, A.P.; LEVITOV, T.A.; MATKOVSKIY, V.S.

Clinical aspects of experimental dysentery intoxication in dogs.
Zhur.mikrobiol.epid. i immun. 29 no.3:122 Mr '58.   (MIRA 11:4)

1. Iz Voyenno-meditsinskoy akademii imeni S.M. Kirova.
     (DYSENTERY)

KAZANTSEV, A.P.

ALISOV, P.A.; YEGOROVA, A.P.; KAZANTSEV, A.P.

Characteristics of immunogenesis in dysentery in various clinical
phases of the disease; author's abstract. Zhur.mikrobiol.epid. i immun.
29 no.4:91 Ap '58.   (MIRA 11:4)

1. Iz kafedry infektsionnykh bolezney Voyenno-meditsinskoy akademii
imeni Kirova.
        (DYSENTERY, BACILLARY, immunology,
            immunogenesis in var. clin. phases (Rus)

ALISOV, P.A., prof., polkovnik meditsinskoy sluzhby; YEGOROVA, A.P., kand.med.
nauk; KAZANTSEV, A.P., kand.med.nauk, mayor meditsinskoy sluzhby

Evaluation of immunogenesis following different methods of
treating dysentery. Voen.-med.zhur. no.6:66-71 Je '59.

(MIRA 12:9)

(DYSENTERY)   (IMMUNITY)

KAZANTSEV, A.P.

Effect of chlortetracycline on the functional state of the central nervous system in dysentery. Antibiotiki 4 no.1: 59-63 Ja-F '59.   (MIRA 12:5)

1. Kafedra infektsionnykh bolezney (nach. - prof. P.A.Alisov) Voyenno-meditsinskoy ordena Lenina akademii im. S.M.Kirova.
        (CENTRAL NERVOUS SYSTEM, eff. of drugs on,
            chlortetracycline in ther. of dysentery (Rus))
    (DYSENTERY, BACILLARY, ther.
            chlortetracycline, eff. on CNS (Rus))
    (CHLORTETRACYCLINE, eff.
            on CNS, in ther. of dysentery (Rus))

EXCERPTA MEDICA Sec 7 Vol 13/12 Pediatrics   DEC 59

3338. THE INFLUENCE OF PROTOZOAN AND HELMINTHIC INFESTATIONS ON
VITAMIN C EXCHANGE IN PATIENTS WITH DYSENTERY (Russian text)
- Kazantsev A. P.   Veselovskaya T. A. and Bylinkina E. M. -
SOV. MED. 1959, 23/2 (81-84) Graphs 1 Tables 1
Ascariasis and lambliosis infestations act unfavourably on the vit. C balance in pa-
tients with acute bacillary dysentery. The average content of ascorbic acid in the
serum of dysentery patients was 0.51 mg./100 ml., as compared with 0.29 to 0.38
mg./100 ml. in patients with additional parasitic infestations.
                                        Anigstein - Galveston, Tex. (L, 6, 7)

Chair of Infectious Diseases,
Mil. Ol. Med. Acad. im S. M. Kirov

KAZANTSEV, A.P., kand.med.nauk

Side effects from the administration of chlortetracycline and methods for their prevention. Sov.med. 23 no.8:80-87 Ag '59.   (MIRA 12:12)

1. Iz kafedry infektsionnykh bolezney Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova (nach. - prof. P.A. Alisov).
(CHLORTETRACYCLINE eff., inj.)

ALISOV, P.A.; YEGOROVA, A.P.; KAZANTSEV, A.P.

Seasonal variation in dysentery immunogenesis. Zhur.mikrobiol.
epid. i immun. 30 no.4:38-41 Ap '59.   (MIRA 12:6)

1. Iz kafedry infektsionnykh bolezney Voyenno-meditsinskoy
akademii imeni S.M.Kirova.
          (DYSENTERY, BACCILLARY, immunol.
              immunogenesis, seazonal variations (Rus))
          (CLIMATE
              seazonal variations in dysenterial immunogenesis
              (Rus))

KAZANTSEV, A.P.

Seasonal changes in certain physiological indices in dysentery patients.
Zhur.mikrobiol.,epid.,i immun. 30 no.11:94-100 N '59.   (MIRA 13:3)
        (DYSENTERY BACILLARY physiol.)
        (CLIMATE)

KAZANTSEV, A.P., kand.med.nauk (Leningrad)

Significance of associated disease in the pathogenesis of acute
dysentery. Terap.arkh. 31 no.12:40-45 D '59.   (MIRA 13:4)
(DYSENTERY compl.)

ALISOV, P.A;, polkovnik meditsinskoy sluzhby, prof.; VESELOVSKAYA, T.A.;
KAZANTSEV, A.P., mayor meditsinskoy sluzhby, kand.med.nauk

Effect of the body's vitamin C requirement on the immunological
reactivity of patients with dysentery. Voen.-med.zhur. no.4:55-
58 Ap '60.

(ASCORBIC ACID)   (DYSENTERY)   (MIRA 14:1)

KAZANTSEV, A.P.

Functional state of the nervous system in dysentery patients;
based on the study of adequate optical chronaxy. Trudy Len.
ob-va est. 72 no.1:132-133 '61.   (MIRA 15:3)
                    (DYSENTERY) (NERVOUS SYSTEM)

ALISOV, P.A., polkovnik meditsinskoy sluzhby, prof.; KAZANTSEV, A.P.,
    mayor meditsinskoy sluzhby, kand.med.nauk

Treatment of dysentery with small doses of chlortetracycline
(biomycin). Voen.-med. zhur. no.4:23-26 Ap '61. (MIRA 15:6)
        (AUREOMYCIN)   (DYSENTERY)

ALISOV, P. A., polkovnik meditsinskoy sluzhby, prof.; KAZANTSEV, A. P.,
podpolkovnik meditsinskoy sluzhby, kand. med. nauk;
LEVITOV, T. A., mayor meditsinskoy sluzhby, kand. med. nauk

Importance of combined examination in interpreting the diagnosis
of "healthy dysentery carrier". Voen.-med. zhur. no.12:22-26
D '61.   (MIRA 15:7)

(DYSENTERY)

KARYUK, S.Ye.; KAZANTSEV, A.P.

On the 70th birthday of Professor P.A. Alisov. Zhur.
mikrobiol., epid. i immun. 33 no.7:153   Jl '62.

(MIRA 17:1)

ALISOV, P.A., prof.; KAZANTSEV, A.P., doktor med. nauk

Clinical aspects and prevention of recurrent scarlet fever. Vop.
okh. mat. i det. 8 no.7:31-35 Jl '63.   (MIRA 17:2)

1. Iz kafedry infektsionnykh bolezney Voyenno-meditsinskoy ordena
Lenina akademii imeni S.M. Kirova (nachal'nik - prof. P.A. Alisov).

KAZANTSEV, A.P.

Effect of vitamin C on the functional status of the central
nervous system in dysenteric patients. Vop. pit. 22 no.6:30-
38 N-D '63.   (MIRA 17:7)

1. Iz kafedry infektsionnykh bolezney (nachal'nik - prof. P.A.
Alisov) Voyenno-meditsinskoy akademii imeni S.M. Kirova, Lenin-
grad.

ALISOV, P.A.; KAZANTSEV, A.P. ; ORECHKINA, M.L.

Effect of vaccine therapy (by electrophoresis) on the dynamics of some immunological indices in scarlet fever. Zhur. mikrobiol. epid. i immun. 40 no.4:26-30 Ap '63.   (MIRA 17:5)

1. Iz kafedry infektsionnykh bolezney Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova.

KAZANTSEV, A.P., doktor med. nauk

Results of the use of vitamin P in the compound therapy of
scarlet fever. Pediatriia 42 no.8:49-51 Ag'63   (MIRA 17:4)

1. Iz kafedry infektsionnykh bolezney (nachal'nik - prof.
P.A. Alisov) Voyenno-meditsinskoy ordena Lenina akademii imeni
Kirova.

KAZANTSEV, A.P., doktor med. nauk

Effect of some vitamins on the vascular resistance of the skin
in scarlet fever. Vop. pit. 22 no.4:56-58 Jl-Ag '63.

(MIRA 17:10)

1. Iz kafedry infektsionnykh bolezney (nachal'nik - prof. P.A.
Alisov) Voyenno-meditsinskoy akademii imeni Kirova, Leningrad.

KAZANTSEV, A.P.

Characteristics of the clinical course of scarlet fever at different
periods of the year. Zhur. mikrobiol., epid. i immun. 41 no.4:73-76
Ap '64.   (MIRA 18:4)

1. Voyenno-meditsinskaya ordena Lenina akademiya imeni Kirova.

KAZANTSEV, A.P., doktor med.nauk

Effect of cholecystitis and angiocholitis on the course of typhoid
and paratyphoid diseases. Sov. med. 28 no.3:85-89 Mr '65.

(MIRA 18:10)

1. Kafedra infektsionnykh bolezney (nachal'nik - prof. P.A.Alisov),
Voyenno-meditsinskaya akademiya imeni S.M.Kirova, Leningrad.

ACCESSION NR: AP5011280

AUTHOR: Kazantsev, A. P.

TITLE: The effects of concomitant cholecystectomy on the immunological reactions of typhoid patients

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 9, 1965

TOPIC TAGS: man, typhoid fever, gallbladder, immunology, bacterial antigen, epidemiology

ABSTRACT: In 111 typhoid fever cases,

O-antigens were performed on all patients at time of hospital admission, at 6-8 day intervals during hospitalization, and before

Card 1/2

ACCESSION NR: AP5011286

hospital release. The H- and O-agglutinin titers
course of the disease were found to be lower in case
fever with concomitant cholecystocholangitis than in

... more common in ... than in the United ...

High ...

Card 2/2

ALISOV, P.A., prof.; KAZANTSEV, A.P., doktor med. nauk

Treatment of typhoid fever with levomycetin combined with the
introduction of vaccine intradermally or by means of electro-
phoresis. Sov. med. 28 no.9:66-71 S '65.   (MIRA 18:9)

1. Kafedra infektsionnykh bolezney (nachal'nik - prof. P.A.Alisov)
Voyenno-meditsinskaya ordena Lenina akademiya imeni Kirova, Lenin-
grad.

ALISOV, P.A., prof.; KAZANTSEV, A.P., doktor med. nauk

Rate of incidence and characteristics of sporadic ornithosis. Sov.
med. 28 no.5:117-121 My '65.   (MIRA 18:5)

1. Kafedra infektsionnykh bolezney (nachal'nik prof. P.A.Alisov)
Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad.

ALISOV, P.A., general-mayor meditsinskoy sluzhby, prof.; BOLDASOV, V.K., kand. med. nauk; KAZANTSEV, A.P., podpolkovnik meditsinskoy sluzhby, doktor med. nauk; NEMIRO, Ye.A.; TARASOV, V.N., kand. med. nauk; MEBEL', B.D., kand. med. nauk

Experience in clinical and laboratory diagnosis of acute respiratory diseases in man. Voen.-med. zhur. no. '1:49-53 Ja '66

(MIRA 19:2)

ACC NR: AP7003533

SOURCE CODE: UR/0386/67/005/001/0013/0016

AUTHOR: Kazantsev, A. P.

ORG: Institute of Physics of Semiconductors, Siberian Department, Academy of Sciences SSSR (Institut fiziki poluprovodnikov Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Excitations of exciton type in a gas

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 5, no. 1, 1967, 13-16

TOPIC TAGS: exciton, thermal excitation, gas kinetics, relaxation process

ABSTRACT: The author considers collective excitations in a gas, similar in character to Frenkel excitons in molecular crystals. The equations of motion are solved for the distribution of the atomic dipoles and for the electric field for low and high atomic densities. At low densities the dispersion of the atomic oscillations is connected with thermal motion of the atoms, and the analysis can then be carried out in the self-consisten-field approximation. At high densities the dispersion of the oscillations is connected with the finite distance between particles, and the excitons are situated in a system of radially arranged atoms. The characteristic frequency of the relaxation due to thermal motion of the atoms is also calculated. This reveals the connection between the damping of the excitations and the temporal fluctuations of the particles, which are determined primarily by the nearest-neighbor collisions. The author thanks V. L. Pokrovskiy for a useful discussion. Orig. art. has: 12

Card 1/2

ACC NR: AP7003533

formulas.

SUB CODE: 20/   SUBM DATE: 03Oct66/   ORIG REF: 005/   OTH REF: 003

Card 2/2

ACC NR: AP6034472   (N)   SOURCE CODE: UR/0392/66/000/005/0066/0069

AUTHOR: Kazantsev, A. P.

ORG: Department of Infectious Diseases /Head-Prof. P. A. Alisov/,
Order of Lenin Military Medical Academy im. S. I. Kirov, Leningrad
(Kafedra infektsionnykh bolezney Voyenno-meditsinskoy akademii)

TITLE: Use of antibiotics in ornithosis

SOURCE: Kazanskiy meditsinskiy zhurnal, no. 5, 1966, 66-69

TOPIC TAGS: virus disease, virus, drug treatment, ornithosis, antibiotic

ABSTRACT: Experience in treating 100 ornithosis patients with various
antibiotics (penicillin, chlortetracycline, streptomycin, and chlor-
amphenicol) demonstrated that the best regime is administration of
1.2—1.6 g of a drug from the tetracycline group during the fever period
and 0.8—1.2 g of the drug for 3—5 days after normalization of temper-
ature. Antibiotics are not recommended at all for patients convalescing
from a relapse of ornithosis. Good results are expected from a combin-
ation of antibiotic therapy with ornithosis vaccine. Experimental use
of ornithosis vaccine on 12 people produced therapeutic results and in-
creased the titer of the complement-fixation reaction with ornithosis
antigen. Titers in the complement-fixation reaction often drop when

Card 1/2   UDC: 616.988.73—615.779.9

ACC NR: AP6034472

ornithosis patients are treated with antibiotics: for this reason the combined method of antibiotic therapy followed by vaccination seems most promising.

[W.A. 50]

SUB CODE: 06/ SUBM DATE: none/ ORIG REF: 012/ OTH REF: 023

Card 2/2

BURLAKA, P.N., red.; YEFREMOV, I.A., red.; YEVGEN'YEV, B.S., red.;
ZABELIN, I.M., red.; KAZANTSEV, A.P., red.; KUMKES, S.N.,
red.; OBRUCHEV, S.V., red.; DOLINOV, M.Ye., red.; PRONIN,
N.N., otv. red.; ZHURAVLEVA, G.P., mladshiy red.; KOSHELEVA,
S.M., tekhn. red.;GOLITSYN, A.V., red. kart

[On land and sea; tales, stories and sketches]Na sushe i na
more; povesti, rasskazy, ocherki. Moskva, Geografgiz, 1962.
645 p.   (MIRA 16:2)
    (Voyages and travels) (Geography)

KAZANTSEV, A.

Agricultural Machinery

"Machines of the times." Kolkh, Mol. 19, No. 4, 1952.

KAZANTSEV, A.

Harvesting

Golden Stream. Tekh. molod 20 no. 6, 1952.

KAZANTSEV, A., inzhener.

Machinery Palace. Tekh.mol. 22 no.8:19-23 Ag '54. (MLRA 7:8)
(Moscow--Agricultural exhibitions) (Agricultural exhibi-
tions) (Agricultural machinery)

KAZANTSEV, Aleksandr Petrovich; KRASNOV, V., laureat Stalinskoy premii; redaktor; AYDINOV, G., redaktor; BODROV, A., tekhnicheskiy redaktor.

[Giants of the field] Bogatyri polei. Moskva, Izd-vo TSK VLKSM "Molodaia gvardiia," 1955. 220 p. [Microfilm]   (MLRA 8:6)
        (Agricultural machinery)

KAZANTSEV, Aleksandr Petrovich; PETROVA, S., red.; DANILINA, A., tekhn.red.

[The earth calls] Zemlia zovet. Moskva, Gos.izd-vo polit.lit-ry, 1957. 102 p.   (MIRA 11:1)

(Agriculture)

KAZAN I ..\ .\ ..

21(7)   PHASE I BOOK EXPLOITATION   SOV/1244

Akademiya nauk SSR.   Institut atomnoy energii

Fizika plazmy i problema upravlyayemykh termoyadernykh reaktsiy,
    t. IV. (Plasma Physics and the Problem of Controlled
    Thermonuclear Reactions, v. 4) [Moscow] Izd-vo AN SSSR, 1958.
    439 p. 3,000 copies printed.

Resp. Ed.:   Leontovich, M.A., Academician.

PURPOSE: This collection contains previously unpublished work of
    members of the Institut atomnoy energii (Institute of Atomic
    Energy) of the Academy of Sciences of the USSR.   It is intended
    for scientist interested in this field.

COVERAGE: This book is the last of four volumes of previously
    unpublished work of members of the Institute of Atomic Energy
    during the period of 1951-58.   The exploitation cards on the
    other volumes in this series have been released under the
    numbers 1241, 1242, and 1243.

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      2

Plasma Physics and the Problem (Cont.)   SOV/1244

Card 2/8

KAZANTSEV, A.P.

S/020/60/133/02/18/068
B019/B060

AUTHOR: Kazantsev, A. P.

TITLE: Flow of a Conducting Gas Round a Current-carrying Plate

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 2,
              pp. 318-320

TEXT: The magnetic field of a current-carrying plate which is inclined
to the flow direction of the conducting gas under the angle α and has the
width L, is described by the complex potential $w(z)$. The imaginary part
of $w(z)$ on the plate and at the boundary of the cavity which is formed
by the flow of a conducting gas round a current-carrying plate, is
assumed to be constant. The conformal representation of the cavity region
by the function (5) is derived, in which connection the author proceeds
from results taken from papers by Zh. Byurgers (Ref. 1) and V. N.
Zhigulev (Ref. 2). The investigation of this series is generally
complicated, and some special cases are discussed here. In the case of a
longitudinal flow round the plate ($\alpha = 0$), (5) can be represented as an

Card 1/3   /C

26416

S/056/61/041/001/011/021
B102/B214

·24.6714

AUTHORS: Kazantsev, A. P., Gilinskiy, I. A.

TITLE: The interactions of transverse oscillations in a plasma

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41, no. 1(7), 1961, 154-158

TEXT: The role of a nonlinear effect connected with the influence of the magnetic field of transverse waves in a plasma is discussed. It is shown that, if the frequency difference of two transverse waves equals the plasma frequency (resonance interaction), the waves are modulated. In the case of a non-resonance interaction only a weak frequency shift is observed. As is usual, in the treatment of weak plasma oscillations the effect of the proper magnetic field is neglected, since it is only of the order of nv/c (n-refractive index, v- characteristic velocity). As has been shown by V. L. Ginzburg and A. V. Gurevich (UFN, 60, 2, 3, 1960), this effect leads to an additional interaction between the waves. Naturally, this effect is most important in a magneto-active plasma if n is large. Only the propagation of waves along a homogeneous magnetic field $\vec{H}(0,0,H)$

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26416
S/056/61/041/001/011/021
B192/B214

The interactions of transverse ...

is considered here; the various transverse waves interact by means of excitation and absorption of longitudinal oscillations. Start is made from the system of equations describing the electromagnetic field and the plasma in hydrodynamical approximation:

$$du/dt + eE/m = -(e/2mc)(v\partial A^*/\partial z + v^*\partial A/\partial z),\qquad (1)$$

$$\partial E/\partial z + 4\pi e n_0 \rho = 0, \qquad d\rho/dt + (1+\rho)\partial u/\partial z = 0,\qquad (2)$$

$$\frac{d}{dt}\left(v - \frac{e}{c}A\right) = i\frac{eH}{mc}v,\qquad (3)$$

$$\frac{1}{c^2}\frac{\partial^2 A}{\partial t^2} - \frac{\partial^2 A}{\partial z^2} = -\frac{4\pi}{c}e n_0(1+\rho)v.\qquad (4)$$

Here, $d/dt = \partial/\partial t + u\,\partial/\partial z$, u and E are electron velocity and electric field in the z-direction, and $\rho = (n - n_0)/n_0$ is the relative change of the electron density. The ions are supposed to be at rest and their density to be equal to n_0. The transverse electric field is described by the vector potential $\vec{A}(A_x, A_y, 0)$; $A = A_x + iA_y$; and $v = v_x + iv_y$, where v_x and v_y are the transverse velocities of the electrons. The electron temperature is

Card 2/6

The interactions of transverse ...

assumed to be zero, and the dissipative processes are neglected. The longitudinal eigen oscillations are assumed not to exist. The right-hand side of (1) is assumed to be small, and the terms quadratic in u and ρ are neglected. Then, one can write (1)-(4) in the dimensionless form

$$\frac{\partial^2 \rho}{\partial t^2} + \rho = \varepsilon^2 \frac{\partial}{\partial z}\left(v\,\frac{\partial A^*}{\partial z} + v^*\,\frac{\partial A}{\partial z}\right). \qquad (5)$$

$$\frac{\partial \rho}{\partial t} + \frac{\partial u}{\partial z} = 0, \quad \frac{d}{dt}(v - A) = i\omega_H v,' \qquad (6)$$

$$\partial^2 A/\partial t^2 - \partial^2 A/\partial z^2 + (1+\rho)\,v = 0. \qquad (7)$$

$v_0 = eA_0/mc$, $\varepsilon = |v_0^*|/c\sqrt{2}$ is a small parameter', and $\omega_H = eH/mc\omega_0$ is the dimensionless Larmor frequency. An approximate solution of these equations is sought in the form of a superposition of plane waves with slowly varying amplitude:

$$A(z,t) = \sum_\omega A_\omega(t)\,e^{i\varphi_\omega}; \quad v(z,t) = \sum_\omega \frac{\omega}{\omega - \omega_H}(A_\omega + B_\omega)e^{i\varphi_\omega},$$

$$\rho(z,t) = \sum_{\omega > \omega'} a'_{\omega\omega'}(t)\,e^{i(\varphi_\omega - \varphi_{\omega'})'} + \text{к. с.,} \qquad (8)$$

Card 3/6 $\varphi_\omega = \omega t + k_\omega z$, $k_\omega = \omega n_\omega$ и $n_\omega^2 = 1 - 1/\omega(\omega - \omega_H)$

26416

The interactions of transverse ...   S/056/61/041/001/011/021
B102/B214

On introducing this in (5)-(7) one obtains the amplitude equations:

$$2i\,(\omega-\omega')\,\dot{\alpha}_{\omega\omega'} + [1-(\omega-\omega')^2]\,\alpha_{\omega\omega'} = -\varepsilon^2\lambda_{\omega\omega'}A_\omega A_{\omega'}^*, \qquad (9)$$

$$\mu\,(\omega)\,A_\omega = i\sum_{\omega'} \alpha_{\omega\omega'}\,\frac{\lambda_{\omega\omega'}}{(k_\omega-k_{\omega'})^2}\,A_{\omega'}, \qquad (10)$$

$$B_\omega = i\,\frac{\omega_H}{\omega}\left(\frac{A_\omega}{\omega-\omega_H} + \sum_{\omega'} \frac{k_{\omega'}\,(\omega-\omega')\,\alpha_{\omega\omega'}A_{\omega'}}{(k_\omega-k_{\omega'})(\omega'-\omega_H)}\right), \qquad (11)$$

$$\lambda_{\omega\omega'} = (k_\omega-k_{\omega'})\left(\frac{k_\omega\omega'}{\omega'-\omega_H} - \frac{k_{\omega'}\omega}{\omega-\omega_H}\right), \qquad \mu\,(\omega) = 2\omega + \frac{\omega_H}{(\omega-\omega_H)^2}.$$

The equations (9) and (10) have the integrals

$$\mu\,(\omega)\,|A_\omega|^2 + \frac{2}{\varepsilon^2}\sum_{\omega'} \frac{\omega-\omega'}{(k_\omega-k_{\omega'})^2}\,|\alpha_{\omega\omega'}|^2 = \text{const.} \qquad (12)$$

For resonance and near resonance terms occurring here the condition $(\omega-\omega')^2 \approx 1$ must be satisfied. The resonance terms may be of the same order of magnitude as ε, but the non-resonance terms are not larger than ε^2.

Card 4/6

The interactions of transverse ...

It is seen from (12) that the interaction between different waves decreases the energy of high frequency oscillations, and increases that of the low frequency ones. If a summation is made in (12) over ω it is found that $\sum_\omega \mu(\omega) |A_\omega|^2$ = const. The integrals (12) and (14) are adiabatic invariants for the present problem. Since further treatment of Eqs. (9) and (10) is difficult in the general case, the special cases of non-resonance interaction and of resonance interaction of two waves are considered. In the former case the solution is easily found to be

$$A_\omega(t) = A_\omega(0)\, e^{i\Delta\omega t},$$

$$\Delta\omega = -\frac{\varepsilon^2}{\mu(\omega)} \sum_{\omega'} \frac{\lambda^2_{\omega\omega'}|A_{\omega'}(0)|^2}{(k_\omega - k_{\omega'})^2 [1 - (\omega - \omega')^2]} \cdot \qquad (16)$$

In the latter case (the resonance interaction of two extraordinary waves is considered) there is a modulation. The modulation period gives

$$\tau_0 = \int_0^1 \frac{d\zeta}{\sqrt{\zeta(1-\zeta)(I_{20} + I_{10}\zeta)}}. \qquad (20)$$

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26416

The interactions of transverse ...

$S/056/61/041/001/011/021$
$B102/B214$

with

$$d^2U/d\tau^2 + \zeta(I_{20} - I_{10}) + \tfrac{3}{2} I_{10}\zeta^2 = \tfrac{1}{2} I_{20},$$

and approximately $\tau_0 = I_{10}^{-1/2}\ln(4I_{10}/I_{20})$; $I_{1,2} = \mu_{1,2}(\omega)\,|A_{1,2}|^2$, $\qquad$ (18),

$I_{10} = I_1 + I_{10}\}$; $I_{20} = I_2 - I_{10}\}$. The results do not change qualitatively for non-zero electron temperatures. In place of resonance condition $(\omega - \omega')^2 = 1$ there appears $(\omega_1 - \omega_2)^2 - (c_8/c)^2(k_1 - k_2)^2 = 1$, where c_8 is the thermal velocity of the electrons. The authors thank V. L. Pokrovskiy for discussions. There are 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Institut radiofiziki i elektroniki Sibirskogo otdeleniya
Akademii nauk SSSR (Institute of Radiophysics and Electronics
of the Siberian Department of the Academy of Sciences, USSR)

SUBMITTED: December 30, 1960

Card 6/6

PHASE I BOOK EXPLOITATION   SOV/6166

Kazantsev, Aleksandr Petrovich

Stupeni gryadushchego (Steps to the Future) Moscow, Gospolitizdat, 1962.

Ed.: V. A. Orlov; Tech. Ed.: N. N. Lebedeva.

PURPOSE: This book is intended to aid the reader in judging man's role in the space age.

COVERAGE: The book contains the revolutionary and economic premises and subsequent steps leading to the conquest of space, as carried out by Yuriy Gagarin and German Titov in the Soviet spaceships "Vostok" and "Vostok-2." Documents and facts are presented which in the author's opinion (even though disputed by archeologists and astronomers) attest to the probable contact of the Earth's civilization with extraterrestrial civilization. Future problems in the victorious march of intellect through the Universe are discussed.

Card 1/2

L 15709-63   EPR/EPA(b)/EWT(1)/EPF(n)-2/EWG(k)/BDS/T-2/EEC(b)-2/ES(w)-2

AFFTC/ASD/ESD-3/AFWL/IJP(C)/SSD   Ps-4/Pd-4/Pu-4/Pz-4/Pab-4/Po-4/Pi-4   WW/AT
ACCESSION NR: AR3002648   s/0124/63/000/005/B002/B002

SOURCE: Rzh. Mekhanika, Abs. 5B8

AUTHOR: Kazantsev, A.P.

TITLE: Streamline flow around magnetic inhomogeneities

CITED SOURCE: Sb. Vopr. magnitn. gidrodinamiki i dinamiki plazmy. v. 2. Riga,
AN LatvSSR, 1962, 191-196

TOPIC TAGS: streamline flow, magnetic field, magnetic source, complex potential
scattering, jet, semi-infinite plate, plate

TRANSLATION: A theoretical study is made of a two dimensional streamline flow
around magnetic field sources by a current of conducting incompressible liquid.
The form and the position of the cavity boundary occupied by the magnetic field
for a given source of this field is thereby determined. The flow around a semi-
infinite plate /aligned in the direction of the flow/ with a current, the flow
of the linear current, and the scattering of the conducting fluid in the linear
current is investigated. The analysis is conducted by introduction of the

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L 15709-63
ACCESSION NR: AR3002648

2

complex potentials, for the liquid current, $w_1 = w_1(z_1)$ and for the magnetic field $w_2 = w_2(z_2)$. The current velocity and the magnetic field were considered as complex potential functions. In the case of a non-stationary streamline flow of linear current the following was developed: that with the growth of the current I a force arises, retarding the current, and with the decrease of the current a driving force appears.

The consideration of the case of the scattering of the jet of conducting liquid by the linear current is limited to the study of the scattering of the jet at small angles only. The result that the scattering angle of the jet α is expressed by the formula

$$\alpha = \frac{I^2}{8L_\infty \rho v_\infty^2}$$

where S is the impact parameter; L_∞ is the width of the jet at infinity ρ, V_∞ are respectively the density and the velocity of the liquid in the jet, is obtained. Bibl. 5 citations. Yu. N. Denisov

DATE ACQ: 14Jun63

SUB CODE: PH

ENCL: 00

Cord 2/2   ADD. CLUE WORDS: PLASMA, MHD

42733

S/109/62/007/011/012/012
D295/D308

AUTHORS: Matskevich, T.L., Krachino, T.V. and
                  Kazantsev, A.P.

TITLE: Thermal electron emission of TaB_2

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 11,
                  1962, 1972 - 1973

TEXT: The thermionic properties of TaB_2 have been
investigated with a view to its use as a cathode. Tungsten, tan-
talum, tungsten carbide and spectrally pure carbon were used as
the base layers. The results are illustrated by the example of the
'ageing curve' of a TaB_2 cathode on tungsten, showing the emission
current density for 600 V anode voltage as a function of time in
the course of heat treatment. The treatment temperature and the
work function at the beginning and end of each ageing stage are
indicated. At high temperatures (1910 - 2490° K) the emission
decreases sharply owing to deactivation. Maximum emission of 1-3
A/cm^2 (minimum work function 2.8 - 2.9 eV) is obtained at 1600-

Card 1/2

Thermal electron emission of TaB_2 $\begin{array}{l}\text{S}/109/62/007/011/012/012\\ \text{D295/D308}\end{array}$

$1800^\circ K$. An anomalous Schottky effect is observed for field intensities up to 6×10^4 V/cm. The use of TaB_2 as an efficient emitter is ruled out both at low and at high temperatures, whatever the base layer. There is 1 figure.

SUBMITTED: May 17, 1962

Card 2/2

42542

3.2310

24.2500

S/020/62/147/001/011/022
B104/B102

AUTHOR: Kazantsev, A. P., Surdutovich, G. I.

TITLE: Emission from a charged particle flying near a metal shield

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 1, 1962, 74 - 77

TEXT: A study is made of the radiation emitted by a charged point particle when the electromagnetic field of the particle is diffracted by a metal shield. The shield is considered as an ideally conducting semiplane with the particle trajectory perpendicular to its edge. In DAN 116, 377 (1957); 124, 792 (1959) and 124, 1024 (1959) this problem was dealt with for fast and slow particles. Here an exact solution for arbitrary $\beta = v/c$ is sought, the particle being assumed to move at constant velocity. Proceeding from a Fourier representation of the electromagnetic potential induced by the charges and currents of the metal shield ·

$$j_x(k) = B_{q\omega} \frac{p + i\tau}{\sqrt{p - k}\,(k + i\tau)},$$

$$B_{q\omega} = \frac{1}{4\pi^2} \frac{c\beta \sqrt{p - i\tau}}{\varkappa \cos\theta + i\omega \sin\theta} \exp\left(-\frac{\varkappa a}{\beta}\right). \qquad (10)$$

Card 1/3

Emission from a charged particle...

is obtained for the current density,

$$p(k) = -B_{q\omega}\left(\frac{\omega}{p}\frac{1}{\sqrt{p-u}} - \frac{\alpha\cos\theta + i\omega\tau^2\sin\theta}{\alpha^3}\frac{\sqrt{p-k}}{k+i\tau}\right). \quad (11)$$

for the charge density, and $W = 3e^2\beta^2/8\alpha\gamma$ for the total emission energy.

In these formulas $\alpha = |\sqrt{\omega^2\gamma^2 + q^2\beta^2}|$, $\tau = \dfrac{\sin\theta - i\cos\theta}{\beta}$, $\gamma = \sqrt{1-\beta}$,
$A^{(0)} = \{\vec{A}^{(0)}, \varphi^0\}$ is the field of the point charge in free space and
$A = \{\vec{A}, \varphi\}$ is the field induced by the charges and currents of the shield.
Furthermore, the symbols shown in Fig. 1 are valid. Thus, the total
emission energy for high and small velocities proves to be proportional to
the kinetic particle energy. In the ultrarelativistic case, if the
characteristic wavelength is small compared with a, the problem can be
studied by the approximation of geometrical optics. There is 1 figure.

ASSOCIATION: Institut radiofiziki i elektroniki Sibirskogo otdeleniya
              Akademii nauk SSSR (Institute of Radiophysics and Electronics
              of the Siberian Branch of the Academy of Sciences USSR)
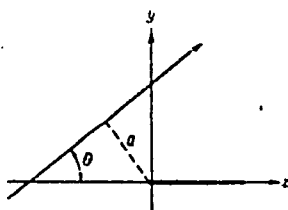
Card 2/3

Emission from a charged particle...   S/020/62/147/001/011/023
                                             B104/B102

PRESENTED: June 7, 1962, by M. A. Leontovich, Academician

SUBMITTED: June 5, 1962

Fig. 1

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S/207/63/000/001/004/028
E191/E135

AUTHOR: Kazantsev, A.P. (Novosibirsk)

TITLE: The structure of a shock wave in a rarefied non-isothermal plasma

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no.1, 1963, 32-37

TEXT: It follows from experiments and astrophysical observations that the width of a shock wave in rarefied plasma can be substantially below the length of the free path. The dissipation mechanism in such a shock wave depends on the excitation of coherent plasma oscillations in the transition layer. Although orderly at small dissipations, these oscillations can be turbulent owing to the instability of plasma. In the present work, the excitation of "superthermal" fluctuations at the shock wave front is considered, which are associated with beam instability. In a region where the electrical potential is appreciable, some electrons are trapped whose kinetic energy is below one electron volt and the mean macroscopic velocity is zero. The beam of captured electrons causes a build-up of oscillations of a certain

Card 1/2

The structure of a shock wave ...   S/207/63/000/001/004/028
                                       E191/E135

kind. Since the plasma stream advances slowly, only low frequency
waves are excited. The analysis is carried out for non-isothermal
plasma in the absence of a magnetic field. In such a plasma,
acoustic oscillation with low attenuation is possible. Since
electrons which effectively interact with the oscillations carry
very little energy, it follows that the energy dissipation
associated with the transfer of kinetic energy of the electrons
into the energy of the oscillations is small. However,
consideration of the dissipation of slow electrons upon non-
equilibrium fluctuations permits the elimination of the ambiguity
associated with the selection of the distribution function of
captured electrons, whose contribution to the formation of the
shock wave is quite substantial. The amplitude of the shock wave
is assumed small. An improved appreciation is given for the
limits of applicability of the results obtained in the present
paper.
There are no figures or tables.
SUBMITTED: July 25, 1962

Card 2/2

AUTHOR: Kazantsev, A. P.

TITLE: Stationary plasma flow in a magnetic field

TEXT: The author investigates the propagation of an isolated wave in a cold
plasma placed in an arbitrarily directed uniform magnetic field H_o. The
following oscillatory branches may be observed: in low frequency fields
$(\omega \lesssim \Omega_i)$ advanced magnetosonic waves with the minimum phase velocity
$v_+ = H_o/\sqrt{4\pi n_o m_i}$ and retarded Alfvén waves with minimum phase velocity
$v_- = v_+ \cos \theta$; at high frequencies $(\Omega_i \ll \omega \ll \Omega_e)$ there is one branch with a
high phase velocity: $\omega/k = v_+ \sqrt{\omega/\Omega_i}$ $(\omega/k \sim v_+ \sqrt{m_i/m_e})$; Ω denotes the Larmor
frequencies and θ the angle between H_o and the propagation direction. Ac-
cording to their dimensions these branches may be divided into large-scale
compression shocks (Alfvén waves) or rarefaction shocks (magnetoacoustic
Card 1/2

waves) and small-scale compression shocks (h-f magnetoacoustic oscillations). On the basis of the kinetic equations and the conservation laws the behavior of these branches is analyzed and the dependence between wave amplitude and Mach number is calculated separately for large-scale and small-scale waves. The critical magnetic field amplitudes for compression waves near which the solution becomes unstable is also determined. The condition for plasma quasi-neutrality may be written as $|\varrho_e - \varrho_i| \sim (v_0/c \cos \theta)^2 \ll 1$ in the case of large-scale waves and $H_0 \ll \sqrt{4\pi n_0 m_e^2 c^2 / m_i}$ for small-scale waves. There are 2 figures.

ASSOCIATION: Institut radiofiziki i elektroniki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Radiophysics and Electronics of the Siberian Branch of the Academy of Sciences USSR)

SUBMITTED: October 20, 1962

Card 2/2

L 18853-65   EWP(1)/EWO(k)/EWT(m)/EPF(c)/EPR/EPA(w)-2/EWP(j)/EEC(t)/EEC(b)-2
Pc-4/Pz-6/Pab-10/Pr-4/Ps-4   SSD/AFWL/ASD(a)-5/AS(m)-2/ESD(dp)/
IJP(c)   WW/AT/RM

ACCESSION NR: AP4043359   S/0 81/64/006/008/2393/2400

AUTHORS: Kazantsev, A. P.; Matskevich, T.

TITLE: Secondary electron emission of methylmetacrylate

SOURCE: Fizika tverdogo tela, v. 6, no. 8, 1964, 2393-2400

TOPIC TAGS: methylmetacrylate, secondary electron, secondary emission, thin film, inelastic scattering, electron reflection, electron transmission

ABSTRACT: A study was made of the secondary electron emission coef-
ficient   reflection coefficient
the slow secondary electron coefficient (ec)
metacrylate films as a function of the energy (U$_p$ = 3--25 kev) and
           primary ele
(500--700 A) was
experiments did not affect the results. The angular depende

Card 1/3

L 18853-65
ACCESSION NR: AP4043359

the irc obeyed well the relationship

where p = ... and z is a parameter of the ...
The ...

The secondary emission characteristics were obtained ...
and ret... ...

... secondary electrons wa... ...

the ...
apply for a spherically symmetrical distribution ...
of motion of internal electrons. Hence it was conclu... ...

Card 2/3

L 16053-65
ACCESSION NR   AP4 4

distribution of internal excited electrons was

article." Orig. art. has: 7 figures and 4 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F.
(Physicotechnical institute AN SSSR

SUBMITTED:

SUB CODE:

Card 3/3

ACCESSION NR: AP4043678   S/0109/64/009/008/1440/1446

AUTHOR: Kazantsev, A. P.; Krachino, T. V.; Matskevich, T. L.

TITLE: Thermionic emission of zirconium carbide

SOURCE: Radiotekhnika i elektronika, v. 9, no. 8, 1964, 1440-1446

TOPIC TAGS: thermionic emission, zirconium carbide, cathode emission

ABSTRACT: The emission from ZrC powder (on Ta, C, or W backing) and ZrC
bars was experimentally investigated in a 1,300--2,400K-temperature range; the
ion current from ZrC in Cs vapor was measured. The maximum permissible
operating temperature of ZrC cathodes on a W backing is found to be 2,400K.
The good emission characteristics of a ZrC cathode are proved by the fact that
current densities up to 37 amp/cm^2 at 5×10^4 v/cm and 2,400K are possible. It
is also found that the experimental Schottky-line slope is 1.4 times greater than
its theoretical value. The life of the above cathode is limited by the evaporation

Card 1/2

ACCESSION NR: AP4043678

rate of ZrC; the active layer hardly changes its emission characteristics in the process of evaporation. The surface ionization of ZrC obeys the Sach-Langmuir law. "The authors are deeply grateful to L. N. Dobretsov for his constant interest and help in the work." Orig. art. has: 4 figures, 4 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 13May63   ENCL: 00

SUB CODE: EC   NO REF SOV: 004   OTHER: 007

Card 2/2

backings

SOURCE   Zhurnal tekhnicheskoy fiziki, v.34, no.14 ...

TOPIC TAGS: thermionic emission, cathode layer, emitter, refractory compound, carbide, boride

ABSTRACT   The present study was initiated in 1959 in the laboratory ...

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ACCESSION NR: AP4049044

... evaporation ... the rates of evaporation ...
which a current of ... A/cm² could be taken off ...

...cesium vapor adsorption on ... thermionic emission d.s was ...
... investigated cathode coatings are more efficient ...
... metal ... oxides and have ...

Card 2/3

L 15024-65
ACCESSION NR: AP4049044

(over 1000 hours). HfB$_2$ adsorbs cesium better than W; the other compounds investigated in this respect are poorer adsorbers. Surface ionization of cesium on the surface the Saha-Langmuir equation at T = 1400 to 1700 K and p = T. The authors are grateful to I. N. Dobretsov for the constant interest in the work. Orig. art. has 12 formulas, 3 figures, and 4 tables.

ASSOCIATION: none

SUBMITTED: 02Mar64   ENCL: 00   SUB CODE: MT, EC

NO REF SOV: 004   OTHER: 003   ATD PRESS: 3143

Card 3/3

ACCESSION NR: AP4012543   S/0056/64/046/001/0182/0186

AUTHORS: Kazantsev, A. P.; Smirnov, V. S.

TITLE: Resonance interaction between radiation and a medium

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 182-186

TOPIC TAGS: radiation interaction with matter, resonance interaction, electrodynamics, stimulated emission, spontaneous emission, two level quantum system, collective processe , Maxwell's equation , electromagnetic radiation, non equilibrium radiation system

ABSTRACT: A self-consistent solution is obtained for several particular cases of Maxwell's equations, in which the radiation energy is commensurate with the excitation energy of the medium and is affected by the reaction of the medium to the radiation. It is shown that this reaction leads to modulation of the electromagnetic field. Only physically meaningful and mathematically manageable cases are

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ACCESSION NR: AP4012543

considered, viz., a medium with weak absorption, an unbounded and
sufficiently rarefied medium, a two-level system, a nondissipative
medium, and a plane electromagnetic wave. The de-excitation time of
a spontaneously emitting non-equilibrium medium is considered for
the case when the de-excitation is determined by the vibrational
properties of the medium. It is shown that the initially spontane-
ous radiation soon turns into stimulated emission because of the
large density of the atoms in the medium. "The authors are grateful
to V. L. Pokrovskiy for a useful discussion." Orig. art. has: 26
formulas.

ASSOCIATION: Institut radiotekhniki i elektroniki Sibirskogo otdele-
niya AN SSSR (Institute of Radio Engineering and Electronics, Si-
berian Department, AN SSSR)

SUBMITTED: 17Jan63   DATE ACQ: 26Feb64   ENCL: 00

SUB CODE: PH   NO REF SOV: 003   OTHER: 000

Card 2/2

ACCESSION NR: AP4019228   S/0056/64/046/002/0620/0627

AUTHOR: Kazantsev, A. P.

TITLE: Stationary relativistic flow of a plasma in a magnetic field

SOURCE: Zhural eksper. 1 teor. fiz., v.46, no. 2, 1964, 620-627

TOPIC TAGS: plasma, relativistic plasma flow, stationary relativistic plasma flow, plasma in magnetic field, isolated plasma wave, cold plasma, magnetic sound wave, mixed wave, large scale Alfven condensation wave, rarefaction wave, hybrid wave, plasma wave structure

ABSTRACT: Stationary isolated waves which can propagate in a medium with nonlinear dispersion are considered. The isolated waves have finite amplitudes and propagate in a "cold" plasma under arbitrary angle to the magnetic field in which the plasma is situated. Four types of waves are possible: large-scale Alfven compression shocks, magnetic-sound rarefaction shocks, mixed shocks, and small-scale compression shocks corresponding to "hybrid" oscillation modes. The structures of the four types of waves are analyzed and the dependence

Card 1/2

ACCESSION NR: AP4019228

of the wave amplitude on the propagation velocity is evaluated. The critical wave amplitudes under which the flow breaks up into several streams is also determined. The regions of existence of the different waves are outlined. Orig. art. has: 2 figures and 66 formulas.

ASSOCIATION: Institut radiofiziki i elektroniki Sibirskogo otdel-eniya AN SSSR (Institute of Radiophysics and Electronics, Siberian Division, AN SSSR)

SUBMITTED: 02Jul63   DATE ACQ: 27Mar64   ENCL: 00

SUB CODE: PH   NO REF SOV: 001   OTHER: 005

Card 2/2

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 19 , 1750-1

         stimulated emission, laser action, solid laser, two leve

L 1696-66   EWA(k)/FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(m)-2/EWA(h)   SCTB/IJP(c)   WG

UR/0181/65/007/009/2816/2820

ACCESSION NR: AP5022729

AUTHOR: Zhelnov, B. L.; Kazantsev, A. P.; Smirnov, V. S.

TITLE: Stimulated emission of a traveling-wave laser

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2816-2820

TOPIC TAGS: laser, laser emission, stimulated emission, traveling wave laser

ABSTRACT: The generation of a traveling-wave laser is studied theoretically near the threshold for the case of high- and low-Q resonators. It is shown that three types of stationary generation can exist: 1) a highly unstable standing-wave, 2) a slightly unstable, slow traveling wave, and 3) a highly stable traveling wave of the type exp i($\omega t - kx$). Under certain energy conditions, the second type can also become stable. Orig. art. has: 23 formulas. [YK]

ASSOCIATION Institut fiziki poluprovodnikov. SO AN SSSR, Novosibirsk (Semiconductor Physics Institute, SO AN SSSR)

SUBMITTED: 30Jan65   ENCL: 00   SUB CODE: EC
NO REF SOV: 003   OTHER: 005,   ATD PRESS: 4093

Card 1/1

L 32633-66   FBD/EWT(1)/EEC(k)-2/T/EWP(k)   IJP(c)   WG

ACC NR: AP6018808   SOURCE CODE: UR/0056/66/050/005/1291/1295

AUTHOR: Zhelnov, B. L.; Kazantsev, A. P.; Smirnov, V. S.

ORG: Institute of Physics of Semiconductors, Siberian Department, Academy of Sciences SSSR (Institut fiziki puluprovodnikov Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Wave interaction in a gas laser

SOURCE: Zh eksper i teor fiz, v. 50, no. 5, 1966, 1291-1295

TOPIC TAGS: gas laser, laser beam, laser propagation, traveling wave interaction, frequency locking

ABSTRACT: The authors consider the interaction between waves traveling in opposite directions in a gas laser with a ring resonator, brought about either by the non-linearity of the medium or by the coupling between waves as they are reflected from the mirrors. A phenomenological formula describing the latter coupling is derived and is introduced into the equations of motion for the wave amplitudes and the phases in a rotating coordinate system. The solution of these equations is used to describe frequency locking effects and suppression of one of the traveling waves. It is shown that under standard gas-laser conditions frequency locking takes place within a band of several hundred cps if the coupling coefficient between the reflected waves is of the order of 10^{-5}. The degree of suppression of one of the waves increases mono-tonically but not uniformly with the relative detuning. The authors thank Yu. V. Troitskiy for a useful discussion. Orig. art. has: 2 figures and 24 formulas. [02]

SUB CODE: 20/   SUBM DATE: 04Nov65/   ORIG REF: 005/   OTH REF: 003/ ATD PRESS: 5025

Card 1/1

ACC NR: AP'... ..1   SOURCE CODE: UR/0056/66/051/006/1751/1760.

AUTHOR: Kazantsev, A. P.

ORG: Institute of Semiconductor Physics, Siberian Department, Academy of Sciences, SSSR (Institut fiziki poluprovodnikov Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Kinetic equation for a gas of excited atoms

SOURCE: Zh eksper i teor fiz, v. 51, no. 6, 1966, 1751-1760

TOPIC TAGS: kinetic equation, excited state, Maxwell distribution, atom polarization, collision integral

ABSTRACT: The purpose of the study was to derive a kinetic equation in which due allowance is made for resonant exchange of excitations, which occurs in collisions of like atoms. To this end, the author derives a generalized Boltzmann equation for the density matrix describing the polarization of the atoms and their distribution over the states. Special account is taken of the deviation of the density matrix from Maxwellian distribution. The polarization of the atoms and the velocity distributions of the individual compoents of the density matrix are assumed arbitrary. The density of the interacting atoms is assumed sufficiently small so that only pair collisions need to be taken into account. The resultant general equation for the collision integral is quite cumbersome, although its structure is straightforward. The author therefore obtains an equation for the density matrix of an atom with two states (s and p states) and determines the exact values of the relaxation coefficients by numerical integration. By way of illustration of the resultant equations,

Card 1/2

ACC NR: AP/C05217

the author analyzes the line shape for the absorption of long electromagnetic waves, and finds that the shape is slightly asymmetrical and differs from Lorentzian. The author thanks V. L. Pokrovskiy and S. G. Rautian for a discussion of a number of problems touched upon in the paper, and V. S. Synakh and O. S. Koyfman for carrying out the numerical calculations. Orig. art. has: 46 formulas and 1 table.

SUB CODE: 20/   SUBM DATE: 03May66/   ORIG REF: 005/   OTH REF: 004

Card   2/2

KAZANTSEV, A.P., podpolkovnik meditsinskoy sluzhby, doktor med. nauk

Toxoplasmosis; a review of the literature. Voen.-med. zhur.
no.2:53-58 '65.   (MIRA 18:11)

KAZANTSEV, A   S   Epp
                                                                .R9155

     Anodno-Mekhanicheskoye Shlifovaniye Metallov v Remontnom Proizvodstye
(Anodnicm chanical Polishing of Metals in Repair work)   Moskva, Mashgiz,
1955.

     86 (1) p. Diagrs., Tables.
     Literatura; p. (o?)

Kazantsev, A. S.

USSR/ Engineering - Crankshaft repair

Card 1/1   Pub. 128 - 16/28

Authors   : Kazartsev, V. I., Dr. of Mech. Sc., Prof.; and Kazantsev, A. S., Cand. of Mech. Sc.

Title   : Restoration of crankshafts for automobile and tractor engines

Periodical : Vest. mash. 35/6, 67 - 70, Jun 1955

Abstract   : Restoration of used crankshafts for automobile and tractor engines by means of autogenous welding, electrodeposition, and chromium and metal plating methods is discussed, and working methods and devices used on lathes for an anode-mechanical treatment of crankshafts, are described. Diagrams, drawings; tables.

Institution :   .....

Submitted   :   .....

BOBROV, I. I., KAZANTSEV, A. V.

Founding

Practical design for gate runner funnel. Lit. proizv. No. 3, 1953.

9. **Monthly List of Russian Accessions**, Library of Congress, _____June_____1953. Unclassified.

PETUKHOV, P.Z., doktor tekhnicheskikh nauk, redaktor; KAZANTSEV, A.V.,
    redaktor; STEPANOV, V.G., kandidat tekhnicheskikh nauk, retsenzent;
    DUGINA, N.A., tekhnicheskiy redaktor

[Using tensiometry in machinery industry; experience in studying
the operation of machinery] Primenenie tenzometrii v mashino-
stroenii; iz opyta issledovaniia raboty mashin na ural'skikh
zavodakh. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.
lit-ry, 1956. 235 p.   (MIRA 10:4)
        (Strain gauges)   (Machinery--Testing)

K A Z A N T S E V , A V.

AUTHOR: Kazantsev, A.V., Engineer

128-58-5-5/16

TITLE: Some Problems of Designing and Calculating Slag Traps in Runner Systems (Nekotoryye voprosy konstruirovaniya i rascheta shlako-uloviteley litnikovykh sistem)

PERIODICAL: Liteynoye Proizvodstvo, 1958, Nr 5, pp 9-12 (USSR)

ABSTRACT: The movement of slag particles in liquid metal flowing through runners with slag traps was studied using cork particles in gasoline; the obtained data was processed by the Reinolds and Frud (transliterated) criterions. The author analyzes, graphically and mathematically, the movement of such particles flowing through slag traps of several common shapes and dimensions, and concludes that the optimum – i.e. the most reliable and the most practical – is the trap shown in figure 6. It requires 42% less metal than the common beamtype trap of corresponding dimensions and can be used for a variety of runner systems. Tests on cast iron castings of 6.5 kg and Bessemer steel castings of 27 kg (together with feeding head) are illustrated (Fig. 7, 8). This slag trap has been used for years on cast iron and steel castings and is recommended as a reliable guard against slag cavities. There are 8 figures.

AVAILABLE: Library of Congress

Card 1/1

PETUKHOV, P.Z., doktor tekhn.nauk; KAZANTSEV, A.V., inzh.-mekhanik;
GUSAROV, M.I., gornyy inzh.; ETINGOV, S.I., gornyy inzh.

Effect of blasting on rod bolting. Gor. zhur. no.12:27-
30 D '61.   (MIRA 15:2)

1. Ural'skiy politekhnicheskiy institut im. Kirova (for Petukhov,
Kazantsev). 2. Severoural'skiye boksitovyye rudniki (for
Gusarov, Etingov).
                          (Blasting)
                          (Mine roof bolting)

KAZANTSEV, A.V.

Experimental investigation of the component of specific power consumption in operating the 05-c coal-loading machine. Trudy Ural.politekh.inst. no.104:181-186 '61.   (MIRA 14:6)

(Coal-handling machinery—Testing)

KAZANTSEV, A.V.

Experimental investigation of the 05-c coal-loading machine.
Trudy Ural.politekh.inst. no.104:187-197 '61.   (MIRA 14:6)
(Coal-handling machinery—Testing)

KAZANTSEV, A.V.; ETINGOV, S.I.

The load on roof bolting in the room and pillar system of mining.
Gor. zhur. no.11:31-36 N '64.   (MIRA 18:2)

1. Ural'skiy politekhnicheskiy institut im. Kirova (for
Kazantsev). 2. Severoural'skiye boksitovyye rudniki (for Etingov).

KAZANTSEV, A. V., assistant

Measurement of the elasticity modulus by an IZV-1 optical length meter. Trudy Ural'. politekh. inst. no.119:96-99 '62.

(MIRA 16:1)

(Elasticity—Measurement)

SAKHARKIN, L.I.; KAZANTSEV, A.V.

Metalation of neobarenes (neocarboranes) by alkali metal amides
in liquid ammonia. Zhur. ob. khim. 35 no.6:1123-1124 Je '65.
(MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.